

COPY OF PAPERS
ORIGINALLY FILED

34 1653 #4 6502

PATENT

ATTORNEY DOCKET NO. 06132/011002

Certificate of Mailing: Date of Deposit: December 5, 2001

I hereby certify under 37 C.F.R. § 1.8(a) that this correspondence is being deposited with the United States Postal Service as **first class mail** with sufficient postage on the date indicated above and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

Susan M. Barry

Printed name of person mailing correspondence

Susan M. Barry

Signature of person mailing correspondence

TECH CENTER 1600/2900

JAN 17 2002

RECEIVED

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Pierre Michetti et al.	Art Unit:	1653
Serial No.:	09/955,739	Examiner:	Not Yet Assigned
Filed:	September 18, 2001	Customer No.:	21559
Title:	Urease-based Vaccine and Treatment for Helicobacter Infection		

Assistant Commissioner For Patents
Washington, DC 20231

INFORMATION DISCLOSURE STATEMENT

Applicants submit the references listed on the attached form PTO-1449.

Submission of this statement is not a representation that a search has been made, nor is information included in this statement an admission that the information is material to patentability.

Under 35 U.S.C. § 120, this application relies on the earlier filing date of application serial number 08/200,346, filed on February 23, 1994. The following references were submitted to and/or cited by the Office in the prior application and, therefore, are not provided in this application:

4,879,213	11/7/89	Fox et al.
5,268,276	12/7/93	Holmgren et al.
5,403,924	4/4/95	Cover et al.
5,538,729	7/23/96	Czinn et al.
5,578,302	11/26/96	Brassart et al.
5,871,749	02/16/99	Doidge et al.
5,733,740	3/31/98	Cover et al.
5,985,631	11/16/99	Soman et al.
5,972,336	10/26/99	Michetti et al.
5,859,219	1/12/99	Cover et al.
6,060,241	5/9/00	Corthesy-Theulaz
6,096,521	8/01/00	Haas et al.
WO 90/04030	04.19.90	PCT
WO 91/16072	31.10.91	PCT
WO 92/19970	11.12.92	PCT
WO 93/07273	15.04.93	PCT
WO 93/16723	02.09.93	PCT
WO 93/18150	16.09.93	PCT
WO 93/20843	28.10.93	PCT
WO 94/09823	11.05.94	PCT
WO 95/03824	09.02.95	PCT
91310049.1	06.05.92	Europe

Baskerville et al., "Naturally Occurring Chronic Gastritis and *C. pylori* Infection in the Rhesus Monkey: A Potential Model for Gastritis in Man," Gut 29:465-472 (1988)

Blaser, "Gastric Campylobacter-like Organisms, Gastritis, and Peptic Ulcer Disease," Gastroenterology 93:371-383 (1987)

Bowie et al., "Deciphering the Message in Protein Sequences: Tolerance to Amino Acid Substitutions," Science 247:1306-1310 (1990)

Burr et al., "Mucosal and Systemic Immunity to *Campylobacter jejuni* in Rabbits after Gastric Inoculation," Infection and Immunity 56:99-105 (1988)

Chamberlain et al., "*Campylobacter (Helicobacter) pylori*: Is Peptic Disease a Bacterial Infection?" Arch. Intern. Med. 150:951-955 (1990)

Chen et al., "Lack of Protection Against Gastric Helicobacter Infection Following Immunisation with Jack Bean Urease: The Rejection of a Novel Hypothesis," FEMS Microbiology Letters 116:245-250 (1994)

Chen et al., "Immunisation Against Gastric Helicobacter Infection in a Mouse/*Helicobacter felis* Model," The Lancet 339:1120-1121 (1992)

Clayton et al., "Molecular Cloning and Expression of *Campylobacter pylori* Species-Specific Antigens in *Escherichia coli* K-12," Infection and Immunity 57:623-629 (1989)

Clayton et al., "Nucleotide Sequence of Two Genes from *Helicobacter pylori* Encoding for Urease Subunits," Nucleic Acids Research 18:362 (1990)

Clements et al., "Adjuvant Activity of *Escherichia coli* Heat-labile Enterotoxin and Effect on the Induction of Oral Tolerance in Mice to Unrelated Protein Antigens," Vaccine 6:269-277 (1988)

Coelho et al., "Duodenal Ulcer and Eradication of *Helicobacter pylori* in a Developing Country," Scandinavian J. Gastroenterology 27:362-366 (1992)

Cornelissen et al., "Anti-idiotypic Immunization Provides Protection Against Endotoxemia in BALB/c Mice," Immunology 79:673-680 (1993)

Corthesy-Theulaz et al., "Oral Immunization with *Helicobacter pylori* Urease B Subunit as a Treatment Against Helicobacter Infection in Mice," Gastroenterology 109:115-121 (1995)

Crabtree et al., "Mucosal Humoral Immune Response to *Helicobacter pylori* in Patients with Duodenitis," Digestive Diseases and Sciences 36:1266-1273 (1991)

Czinn et al., "Oral Immunization Against *Helicobacter pylori*," Infection and Immunity 59:2359-2363 (1991)

Czinn et al., "Rapid Diagnosis of *Campylobacter Pyloridis*-associated Gastritis," J. Pediatrics 110:569-570 (1987)

Czinn et al., "Protection of Germ-free Mice from Infection by *Helicobacter felis* after Active Oral or Passive IgA Immunization," Vaccine 11:637-642 (1993)

Davin et al., "*H. pylori* Urease Elicits Protection Against *H. felis* Infection in Mice," Proceedings of the DDW, American Gastroenterological Association, May 16-19, 1213, A-304 (1993)

Dick-Hegedus et al., "Use of a Mouse Model to Examine Anti-*Helicobacter pylori* Agents," Scandinavian J. Gastroenterology 26:909-915 (1991)

Donaldson et al., "The Relation of Enteric Bacterial Populations to Gastrointestinal Function and Disease," Gastrointestinal Disease, 3rd Edition (W.B. Saunders Co., Philadelphia) pp. 44-54 (1983)

Drazek et al., "Characterization and Presumptive Identification of *Helicobacter pylori* Isolates from Rhesus Monkeys," J. Clin. Microbiology 32:1799-1804 (1994)

Dubois et al., "Natural Gastric Infection with *Helicobacter pylori* in Monkeys: A Model for Spiral Bacteria Infection in Humans," Gastroenterology 106:1405-1417 (1994)

Dunn et al., "Purification and Characterization of Urease from *Helicobacter pylori*," J. Biol. Chem. 265:9464-9469 (1990)

Eaton et al., "Essential Role of Urease in the Pathogenesis of Gastritis Induced by *Helicobacter Pylori* in Gnotobiotic Piglets," Gastroenterology 98:A654 (1990)

Eaton et al., "*Campylobacter pylori* Virulence Factors in Gnotobiotic Piglets," Infection and Immunity 57:1119-1125 (1989)

Eldridge et al., "Biodegradable Microspheres: Vaccine Delivery System for Oral Immunization," Current Topics in Microbiology and Immunology 146:59-66 (1989)

Elson et al., "Generalized Systemic and Mucosal Immunity in Mice After Mucosal Stimulation with Cholera Toxin," J. Immunology 132:2736-2741 (1984)

Elson et al., "A Lavage Technique Allowing Repeated Measurement of IgA in Mouse Intestinal Secretions," J. Immunological Methods 67:101-108 (1984)

Engstrand et al., "Inoculation of Barrier-Born Pigs with *Helicobacter pylori*: a Useful Animal Model for Gastritis Type B," *Infection and Immunity* 58:1763-1768 (1990)

Evans et al., "Characterization of the *Helicobacter pylori* Urease and Purification of its Subunits," *Microbial. Pathogenesis* 10:15-26 (1991)

Ferrero et al., "Cloning, Expression and Sequencing of *Helicobacter felis* Urease Genes," *Molecular Microbiology* 9:323-333 (1993)

Ferrero et al., "Recombinant Antigens Prepared from the Urease Subunits of *Helicobacter* spp.: Evidence of Protection in a Mouse Model of Gastric Infection," *Infection and Immunity* 62:4981-4989 (1994)

Fox et al., "*Helicobacter felis* Gastritis in Gnotobiotic Rats: an Animal Model of *Helicobacter pylori* Gastritis," *Infection and Immunity* 59:785-791 (1991)

Fox et al., "*Campylobacter mustelae*, a New Species Resulting from the Elevation of *Campylobacter pylori* subsp. *Mustelae* to Species Status," *International J. Systemic Bacteriology* 39:301-303 (1989)

Fox et al., "Gastric Colonization by *Campylobacter pylori* subsp. *Mustelae* in Ferrets," *Infection and Immunity* 56:2994-2996 (1988)

Fox et al., "*Helicobacter mustelae*-Associated Gastritis in Ferrets: An Animal Model of *Helicobacter pylori* Gastritis in Humans," *Gastroenterology* 99:352-361 (1990)

Fubara et al., "Protection Against Enteric Bacterial Infection by Secretory IgA Antibodies," *J. Immunology* 111:395-403 (1973)

Gilligan et al., "Oral Vaccines: Design and Delivery," *International Journal of Pharmaceutics* 75:1-24 (1991)

Goodwin et al., "Transfer of *Campylobacter pylori* and *Campylobacter mustelae* to *Helicobacter* gen. nov. as . . . *Helicobacter mustelae* comb. nov., Respectively," *International J. Systematic Bacteriology* 39:397-405 (1989)

Gootz et al., "Immunological and Molecular Characterization of *Helicobacter felis* Urease," *Infection and Immunity* 62:793-798 (1994)

Graham, "*Campylobacter pylori* and Peptic Ulcer Disease," *Gastroenterology* 96:615-625 (1989)

Gupta et al., "Adjuvants - - a Balance Between Toxicity and Adjuvanticity," *Vaccine* 11:293-306 (1993)

Guruge et al., "Detection of Antibodies to *Helicobacter pylori* Cell Surface Antigens," Scand. J. Infect. Dis. 22:457-465 (1990)

Handt et al., "*Helicobacter pylori* Isolated from the Domestic Cat: Public Health Implications," Infection and Immunity 62:2367-2374 (1994)

Hawtin et al., "Investigation of the Structure and Localization of the Urease of *Helicobacter pylori* Using Monoclonal Antibodies," J. General Microbiology 136:1995-2000 (1990)

Heap et al., "Immunisation and Gastric Colonisation with *Helicobacter Felis*," Microb. Ecol. Health Dis. 4:S119; VIth International Workshop Campylobacter, Helicobacter and Related Organisms," Oct. 7-10 (1991)

Holmgren et al., "New Cholera Vaccines," Vaccine 7:94-96 (1989)

Hu et al., "Purification and N-Terminal Analysis of Urease from *Helicobacter pylori*," Infection and Immunity 58:992-998 (1990)

Hu et al., "Purification of Recombinant *Helicobacter pylori* Urease Apoenzyme Encoded by *ureA* and *ureB*," Infection and Immunity 60:2657-2666 (1992)

Isaacson, "Pathogenesis and Early Lesions in Extranodal Lymphoma, Toxicology Letters 67:237-247 (1993)

Kazi et al., "Cellular and Humoral Immune Responses in *Campylobacter pylori* - Associated Chronic Gastritis," J. Pathology 159:231-237 (1989)

Keusch et al., "Immunization Principles and Vaccine Use," Harrison's Principles of Internal Medicine, 13th Edition 1:498-511

Kingsman et al., "Polyvalent Recombinant Antigens: A New Vaccine Strategy," Vaccine 6:304-306 (1988)

Labigne et al., "Shuttle Cloning and Nucleotide Sequences of *Helicobacter pylori* Genes Responsible for Urease Activity," J. Bacteriology 173:1920-1931 (1991)

Lee et al., "Pathogenicity of *Helicobacter pylori*: A Perspective," Infection and Immunity 61:1601-1610 (1993)

Lee et al., "A Small Animal Model of Human *Helicobacter pylori* Active Chronic Gastritis," Gastroenterology 99:1315-1323 (1990)

Lee et al., "Protection from Helicobacter Infections by Intragastric Immunization with Recombinant Urease, *Helicobacter Pylori*: Basic Mechanisms to Clinical Cure," Poster

Abstracts, (Poster #13) Nov. 3-6 (1993)

Lycke et al., "Strong Adjuvant Properties of Cholera Toxin on Gut Mucosal Immune Responses to Orally Presented Antigens," *Gastroenterology* 59:301-308 (1986)

Mazanec et al., "Immunoglobulin A Monoclonal Antibodies Protect Against Sendai Virus," *J. Virology* 61:2624-2626 (1987)

McGhee et al., "The Mucosal Immune System: From Fundamental Concepts to Vaccine Development," *Vaccine* 10:75-88 (1992)

McSweegan et al., "Intestinal Mucus Gel and Secretory Antibody are Barriers to *Campylobacter jejuni* Adherence to INT 407 Cells," *Infection and Immunity* 55:1431-1435 (1987)

Merrifield, "Solid Phase Peptide Synthesis. I. The Synthesis of Tetrapeptide," 85:2149-2154 (1963)

Mestecky, "The Common Mucosal Immune System and Current Strategies for Induction of Immune Responses in External Secretions," *J. Clin. Immunology* 7:265-276 (1987)

Michetti et al., "Immunization of BALB/c Mice Against *Helicobacter felis* Infection With *Helicobacter Pylori* Urease," *Gastroenterology* 107:1002-1011 (1994)

Michetti et al., "Oral Immunization with Urease and Escherichia Coli Heat-Labile Enterotoxin is Safe and Immunogenic in *Helicobacter pylori*-infected Adults," *Gastroenterology* 116:804-812 (1999)

Mobley et al., "*Helicobacter pylori* Urease: Properties and Role in Pathogenesis," Proceedings of an International Workshop at Deerhurst, Huntsville, Ontario, Canada, pp. 39-46, February 21-24 (1991)

Morris et al., "Ingestion of *Campylobacter pyloridis* Causes Gastritis and Raised Fasting Gastric pH," *Am. J. Gastroenterology* 82:192-199 (1987)

Nagata et al., "Monoclonal Antibodies Against the Native Urease of *Helicobacter pylori*: Synergistic Inhibition of Urease Activity by Monoclonal Antibody Combinations," *Infection and Immunity* 60:4826-4831 (1992)

Nedrud et al., "Combined Oral/Nasal Immunization Protects Mice from Sendai Virus Infection," *J. Immunology* 139:3484-3492 (1987)

Oderda et al., "Eighteen Month Follow Up of *Helicobacter pylori* Positive Children Treated with Amoxicillin and Tinidazole," *Gut* 33:1328-1330 (1992)

Offit et al., "Protection Against Rotavirus-Induced Gastroenteritis in a Murine Model by Passively Acquired Gastrointestinal But Not Circulating Antibodies," J. Virology 54:58-64 (1985)

O'Hagan, "Intestinal Translocation of Particulates - Implications for Drug and Antigen Delivery," Advanced Drug Delivery Reviews 5:265-285 (1990)

Olivieri et al., "Growth of *Helicobacter pylori* in Media Containing Cyclodextrins," Journal of Clinical Microbiology 31:160-162 (1993)

Orenstein et al., "Immunization," Mandell, Douglas and Bennett's Principles and Practice of Infectious Diseases, 4th Edition (Churchill Livingstone, New York) Part IV, pp. 2770-2790

Pallen et al., "Vaccine Against *Helicobacter pylori* Urease," The Lancet 336:186-187 (1990)

Parsonnet et al., "VIth Int. Workshop of Campylobacter, Helicobacter, and Related Organisms," October 7-10 (1991)

Pavlovskis et al., "Adjuvant Effect of *Escherichia coli* Heat-labile Enterotoxin on Host Immune Response Following Vaccination with Non-Viable Campylobacter Antigens," Microb. Ecol. Health Dis. VIth Int. Workshop on Campylobacter . . , pg. S10, Oct. 7-10 (1991)

Peterson, "*Helicobacter pylori* and Peptic Ulcer Disease," New England Journal of Medicine 324:1043-1048 (1991)

Plotkin et al., "Vaccines," New Technologies for Making Vaccines-W.B. Saunders 570-571 (1988)

Rappuoli et al., "Development of a Vaccine Against *Helicobacter pylori*: A Short Overview," Eur. J. Gastroenterol. Hepatol. 5/Suppl. 2 (1993)

Rauws et al., "*Campylobacter pyloridis*-Associated Chronic Active Antral Gastritis," Gastroenterology 94:33-40 (1998)

Schaedler et al., "Gastrointestinal Microflora," Chapter 14, The Mouse in Biomedical Research. 3:341-345 Academic Press, Inc. (1983)

Schmitt et al., "Degradation and Release Properties of Pellets Fabricated from Three Commercial Poly (D,L-lactide-co-glycolide) Biodegradable Polymers," J. Pharmaceutical Sciences 82:326-329 (1993)

Sobala et al., "Levels of Nitrite, Nitrate, N-Nitroso Compounds, Ascorbic Acid and Total Bile Acids in Gastric Juice of Patients with and without Precancerous Conditions of the Stomach," Carcinogenesis 12:193-198 (1991)

Solnick et al., "Immunization with Recombinant *Helicobacter pylori* Urease in Specific-Pathogen-Free Rhesus Monkeys (Macaca Mulatta)," *Infection and Immunity* 68:2560-2565 (2000)

Stacey et al., "Local and Systemic Antibody Responses During *Helicobacter pylori* Infections," "*Helicobacter pylori* and Gastroduodenal Pathology," Pajares *et al.*, (Eds.) (Springer-Verlag, New York) pp. 165-169 (1993)

Sutton et al., "Further Development of the *Helicobacter pylori* Mouse Vaccination Model," *Vaccine* 18:2677-2685 (2000)

Stuart et al., "Further Studies on Urease Production by *Proteus* and Related Organisms," *J. Bacteriol.* 49:437-444 (1945)

Thomas et al., "Effect of Oral Immunization with *Helicobacter pylori* Antigens on Colonization by *H. felis* in Mice," *Acta Gastro-Enterologica Belgica*, VIIth Int. Workshop on Campylobacter . . . Brussels, Sept. 21-25 (1993)

Von Wulffen, "Low Degree of Relatedness Between *Campylobacter pyloridis* and Enteropathogenic *Campylobacter* Species as Revealed by DNA-DNA Blot Hybridization and Immunoblot Studies," *FEMS Microbiology Letters* 42:129-133 (1987)

Wegmann et al., "Gastrospirillum-hominis-assozierte Gastritis - Eine Zoonose?" *Schwetz Med. Wschr.* 121:245-254 (1991)

Weltzin et al., "Parenteral Adjuvant Activities of *Escherichia coli* Heat-Labile Toxin and its B Subunit for Immunization of Mice Against Gastric *Helicobacter pylori* Infection," *Infection and Immunity* 68:2775-2782 (2000)

Winner III et al., "New Model for Analysis of Mucosal Immunity: Intestinal Secretion of Specific Monoclonal Immunoglobulin A from Hybridoma Tumors Protects Against *Vibrio cholerae* Infection," *Infection and Immunity* 59:977-982 (1991)

Wotherspoon et al., "Regression of Primary Low-Grade B-Cell Gastric Lymphoma of Mucosa-Associated Lymphoid Tissue Type After Eradication of *Helicobacter pylori*," *The Lancet* 342:575-577 (1993)

Wyatt et al., "Local Immune Response to Gastric *Campylobacter* in Non-Ulcer Dyspepsia," *J. Clin. Pathol.* 39:863-870 (1986)

Abstracts Submitted for "*Helicobacter Pylori*: Beginning the Second Decade" and the VIIth Workshop of the European *Helicobacter Pylori* Study Group, Houston, Texas, September 30-October 1 (1994)

If there are any charges or any credits, please apply them to Deposit Account

No.03-2095.

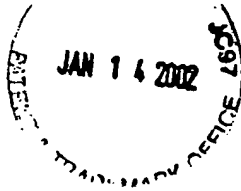
Respectfully submitted,

Date: December 4, 2001 Susan M. Michaud
Susan M. Michaud, Ph.D.
Reg. No. 42,885

Clark & Elbing LLP
176 Federal Street
Boston, MA 02110
Telephone: 617-428-0200
Facsimile: 617-428-7045
06132.011002 Information Disclosure Statement.wpd



21559
PATENT, TRADEMARK OFFICE



RECEIVED
JAN 17 2002
CENTER 1600/2900

Sheet 1 Of 8

SUBSTITUTE FORM PTO-1449
(MODIFIED)

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE
STATEMENT BY APPLICANT
(Use several sheets if necessary)

(37 CFR §1.98(b))

Attorney Docket No.	06132/011002
Serial No.	09/955,739
Applicant	Michetti et al.
Filing Date	September 18, 2001
Group	Not Yet Assigned
IDS Filed	December 5, 2001
Customer No.	21559

U.S. PATENTS

Examiner's Initials	Patent Number	Issue Date	Patentee	Class	Subclass	Filing Date (If Appropriate)
	4,879,213	11/7/89	Fox et al.			
	5,268,276	12/7/93	Holmgren et al.			
	5,403,924	4/4/95	Cover et al.			
	5,538,729	7/23/96	Czinn et al.			
	5,578,302	11/26/96	Brassart et al.			
	5,871,749	02/16/99	Doidge et al.			
	5,733,740	3/31/98	Cover et al.			
	5,985,631	11/16/99	Soman et al.			
	5,972,336	10/26/99	Michetti et al.			
	5,859,219	1/12/99	Cover et al.			
	6,060,241	5/9/00	Corthesy-Theulaz			
	6,096,521	8/01/00	Haas et al.			

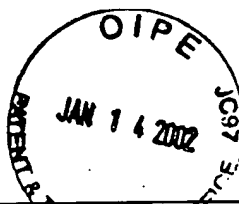
FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

Examiner's Initials	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation (Yes/No)
	WO 90/04030	04.19.90	PCT			
	WO 91/16072	31.10.91	PCT			
	WO 92/19970	11.12.92	PCT			

EXAMINER

DATE CONSIDERED

EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with the next communication to applicant.



Sheet 2 Of 8

SUBSTITUTE FORM PTO-1449
(MODIFIED)U.S. DEPARTMENT OF COMMERCE,
PATENT AND TRADEMARK OFFICE

Attorney Docket No.

06132/011002

Serial No.

09/955,739

Applicant

Michetti et al.

Filing Date

September 18, 2001

Group

Not Yet Assigned

IDS Filed

December 5, 2001

Customer No.

21559

INFORMATION DISCLOSURE
STATEMENT BY APPLICANT
(Use several sheets if necessary)

(37 C.F.R. §1.98(b))

FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

Examiner's Initials	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation (Yes/No)
	WO 93/07273	15.04.93	PCT			
	WO 93/16723	02.09.93	PCT			
	WO 93/18150	16.09.93	PCT			
	WO 93/20843	28.10.93	PCT			
	WO 94/09823	11.05.94	PCT			
	WO 95/03824	09.02.95	PCT			
	91310049.1	06.05.92	Europe			
	0 367 644	09.05.90	Europe			

OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PLACE OF PUBLICATION)

	Baskerville et al., "Naturally Occurring Chronic Gastritis and <i>C. pylori</i> Infection in the Rhesus Monkey: A Potential Model for Gastritis in Man," Gut 29:465-472 (1988).
	Blaser, "Gastric Campylobacter-like Organisms, Gastritis, and Peptic Ulcer Disease," Gastroenterology 93:371-383 (1987).
	Bowie et al., "Deciphering the Message in Protein Sequences: Tolerance to Amino Acid Substitutions," Science 247:1306-1310 (1990).
	Burr et al., "Mucosal and Systemic Immunity to <i>Campylobacter jejuni</i> in Rabbits after Gastric Inoculation," Infection and Immunity 56:99-105 (1988).
	Chamberlain et al., " <i>Campylobacter (Helicobacter) pylori</i> : Is Peptic Disease a Bacterial Infection?" Arch. Intern. Med. 150:951-955 (1990).
	Chen et al., "Lack of Protection Against Gastric Helicobacter Infection Following Immunisation with Jack Bean Urease: The Rejection of a Novel Hypothesis," FEMS Microbiology Letters 116:245-250 (1994).
	Chen et al., "Immunisation Against Gastric Helicobacter Infection in a Mouse/ <i>Helicobacter felis</i> Model," The Lancet 339:1120-1121 (1992).
	Clayton et al., "Molecular Cloning and Expression of <i>Campylobacter pylori</i> Species-Specific Antigens in <i>Escherichia coli</i> K-12," Infection and Immunity 57:623-629 (1989).

EXAMINER

DATE CONSIDERED

EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with the next communication to appl

TECH CENTER 1600/2300

JAN 17 2002

HLODILL

JAN 14 2002

Sheet 3 Of 8

SUBSTITUTE FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE (MODIFIED) PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary) (37 CFR §1.98(b))		Attorney Docket No. 06132/011002 Serial No. 09/955,739 Applicant Michetti et al. Filing Date September 18, 2001 Group Not Yet Assigned IDS Filed December 5, 2001 Customer No. 21559
OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PLACE OF PUBLICATION)		
	Clayton et al., "Nucleotide Sequence of Two Genes from <i>Helicobacter pylori</i> Encoding for Urease Subunits," Nucleic Acids Research 18:362 (1990).	
	Clements et al., "Adjuvant Activity of <i>Escherichia coli</i> Heat-labile Enterotoxin and Effect on the Induction of Oral Tolerance in Mice to Unrelated Protein Antigens," Vaccine 6:269-277 (1988).	
	Coelho et al., "Duodenal Ulcer and Eradication of <i>Helicobacter pylori</i> in a Developing Country," Scandinavian J. Gastroenterology 27:362-366 (1992).	
	Cornelissen et al., "Anti-idiotypic Immunization Provides Protection Against Endotoxemia in BALB/c Mice," Immunology 79:673-680 (1993).	
	Corthesy-Theulaz et al., "Oral Immunization with <i>Helicobacter pylori</i> Urease B Subunit as a Treatment Against <i>Helicobacter</i> Infection in Mice," Gastroenterology 109:115-121 (1995).	
	Crabtree et al., "Mucosal Humoral Immune Response to <i>Helicobacter pylori</i> in Patients with Duodenitis," Digestive Diseases and Sciences 36:1266-1273 (1991).	
	Czinn et al., "Oral Immunization Against <i>Helicobacter pylori</i> ," Infection and Immunity 59:2359-2363 (1991).	
	Czinn et al., "Rapid Diagnosis of <i>Campylobacter Pyloridis</i> -associated Gastritis," J. Pediatrics 110:569-570 (1987).	
	Czinn et al., "Protection of Germ-free Mice from Infection by <i>Helicobacter felis</i> after Active Oral or Passive IgA Immunization," Vaccine 11:637-642 (1993).	
	Davin et al., " <i>H. pylori</i> Urease Elicits Protection Against <i>H. felis</i> Infection in Mice," Proceedings of the DDW, American Gastroenterological Association, May 16-19, 1213, A-304 (1993).	
	Dick-Hegedus et al., "Use of a Mouse Model to Examine Anti- <i>Helicobacter pylori</i> Agents," Scandinavian J. Gastroenterology 26:909-915 (1991).	
	Donaldson et al., "The Relation of Enteric Bacterial Populations to Gastrointestinal Function and Disease," Gastrointestinal Disease, 3 rd Edition (W.B. Saunders Co., Philadelphia) pp. 44-54 (1983).	
	Drazek et al., "Characterization and Presumptive Identification of <i>Helicobacter pylori</i> Isolates from Rhesus Monkeys," J. Clin. Microbiology 32:1799-1804 (1994).	
	Dubois et al., "Natural Gastric Infection with <i>Helicobacter pylori</i> in Monkeys: A Model for Spiral Bacteria Infection in Humans," Gastroenterology 106:1405-1417 (1994).	
	Dunn et al., "Purification and Characterization of Urease from <i>Helicobacter pylori</i> ," J. Biol. Chem. 265:9464-9469 (1990).	
	Eaton et al., "Essential Role of Urease in the Pathogenesis of Gastritis Induced by <i>Helicobacter Pylori</i> in Gnotobiotic Piglets," Gastroenterology 98:A654 (1990).	
	Eaton et al., " <i>Campylobacter pylori</i> Virulence Factors in Gnotobiotic Piglets," Infection and Immunity 57:1119-1125 (1989).	
EXAMINER		DATE CONSIDERED
EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with the next communication to applicant.		



Sheet 4 Of 8

SUBSTITUTE FORM PTO-1449 (MODIFIED) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary) (37 CFR §1.98(b))	Attorney Docket No.	06132/011002
	Serial No.	09/955,739
	Applicant	Michetti et al.
	Filing Date	September 18, 2001
	Group	Not Yet Assigned
	IDS Filed	December 5, 2001
	Customer No.	21559

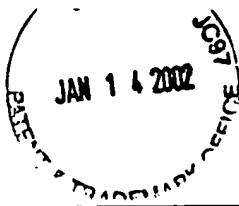
OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PLACE OF PUBLICATION)

	Eldridge et al., "Biodegradable Microspheres: Vaccine Delivery System for Oral Immunization," Current Topics in Microbiology and Immunology 146:59-66 (1989).
	Elson et al., "Generalized Systemic and Mucosal Immunity in Mice After Mucosal Stimulation with Cholera Toxin," J. Immunology 132:2736-2741 (1984).
	Elson et al., "A Lavage Technique Allowing Repeated Measurement of IgA in Mouse Intestinal Secretions," J. Immunological Methods 67:101-108 (1984).
	Engstrand et al., "Inoculation of Barrier-Born Pigs with <i>Helicobacter pylori</i> : a Useful Animal Model for Gastritis Type B," Infection and Immunity 58:1763-1768 (1990).
	Evans et al., "Characterization of the <i>Helicobacter pylori</i> Urease and Purification of its Subunits," Microbial Pathogenesis 10:15-26 (1991).
	Ferrero et al., "Cloning, Expression and Sequencing of <i>Helicobacter felis</i> Urease Genes," Molecular Microbiology 9:323-333 (1993).
	Ferrero et al., "Recombinant Antigens Prepared from the Urease Subunits of <i>Helicobacter</i> spp.: Evidence of Protection in a Mouse Model of Gastric Infection," Infection and Immunity 62:4981-4989 (1994).
	Fox et al., " <i>Helicobacter felis</i> Gastritis in Gnotobiotic Rats: an Animal Model of <i>Helicobacter pylori</i> Gastritis," Infection and Immunity 59:785-791 (1991).
	Fox et al., " <i>Campylobacter mustelae</i> , a New Species Resulting from the Elevation of <i>Campylobacter pylori</i> subsp. <i>Mustelae</i> to Species Status," International J. Systemic Bacteriology 39:301-303 (1989).
	Fox et al., "Gastric Colonization by <i>Campylobacter pylori</i> subsp. <i>Mustelae</i> in Ferrets," Infection and Immunity 56:2994-2996 (1988).
	Fox et al., " <i>Helicobacter mustelae</i> -Associated Gastritis in Ferrets: An Animal Model of <i>Helicobacter pylori</i> Gastritis in Humans," Gastroenterology 99:352-361 (1990).
	Fubara et al., "Protection Against Enteric Bacterial Infection by Secretory IgA Antibodies," J. Immunology 111:395-403 (1973).
	Gilligan et al., "Oral Vaccines: Design and Delivery," International Journal of Pharmaceutics 75:1-24 (1991).
	Goodwin et al., "Transfer of <i>Campylobacter pylori</i> and <i>Campylobacter mustelae</i> to <i>Helicobacter</i> gen. nov. as . . . <i>Helicobacter mustelae</i> comb. nov., Respectively," International J. Systematic Bacteriology 39:397-405 (1989).
	Gootz et al., "Immunological and Molecular Characterization of <i>Helicobacter felis</i> Urease," Infection and Immunity 62:793-798 (1994).

EXAMINER

DATE CONSIDERED

EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with the next communication to applicant.



Sheet 5 Of 8

SUBSTITUTE FORM PTO-1449 (MODIFIED)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	Attorney Docket No.	06132/011002
		Serial No.	09/955,739
		Applicant	Michetti et al.
		Filing Date	September 18, 2001
		Group	Not Yet Assigned
		IDS Filed	December 5, 2001
		Customer No.	21559
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)			
(37 CFR §1.98(b))			

OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PLACE OF PUBLICATION)

	Graham, "Campylobacter pylori and Peptic Ulcer Disease," Gastroenterology 96:615-625 (1989).
	Gupta et al., "Adjuvants - a Balance Between Toxicity and Adjuvanticity," Vaccine 11:293-306 (1993).
	Guruge et al., "Detection of Antibodies to Helicobacter pylori Cell Surface Antigens," Scand. J. Infect. Dis. 22:457-465 (1990).
	Handt et al., "Helicobacter pylori Isolated from the Domestic Cat: Public Health Implications," Infection and Immunity 62:2367-2374 (1994).
	Hawtin et al., "Investigation of the Structure and Localization of the Urease of Helicobacter pylori Using Monoclonal Antibodies," J. General Microbiology 136:1995-2000 (1990).
	Heap et al., "Immunisation and Gastric Colonisation with Helicobacter Felis," Microb. Ecol. Health Dis. 4:S119; VI th International Workshop Campylobacter, Helicobacter and Related Organisms," Oct. 7-10 (1991).
	Holmgren et al., "New Cholera Vaccines," Vaccine 7:94-96 (1989).
	Hu et al., "Purification and N-Terminal Analysis of Urease from Helicobacter pylori," Infection and Immunity 58:992-998 (1990).
	Hu et al., "Purification of Recombinant Helicobacter pylori Urease Apoenzyme Encoded by ureA and ureB," Infection and Immunity 60:2657-2666 (1992).
	Isaacson, "Pathogenesis and Early Lesions in Extranodal Lymphoma," Toxicology Letters 67:237-247 (1993).
	Kazi et al., "Cellular and Humoral Immune Responses in Campylobacter pylori - Associated Chronic Gastritis," J. Pathology 159:231-237 (1989).
	Keusch et al., "Immunization Principles and Vaccine Use," Harrison's Principles of Internal Medicine, 13 th Edition 1:498-511.
	Kingsman et al., "Polyvalent Recombinant Antigens: A New Vaccine Strategy," Vaccine 6:304-306 (1988).
	Labigne et al., "Shuttle Cloning and Nucleotide Sequences of Helicobacter pylori Genes Responsible for Urease Activity," J. Bacteriology 173:1920-1931 (1991).
	Lee et al., "Pathogenicity of Helicobacter pylori: A Perspective," Infection and Immunity 61:1601-1610 (1993).
	Lee et al., "A Small Animal Model of Human Helicobacter pylori Active Chronic Gastritis," Gastroenterology 99:1315-1323 (1990).
	Lee et al., "Protection from Helicobacter Infections by Intra-gastric Immunization with Recombinant Urease, Helicobacter Pylori: Basic Mechanisms to Clinical Cure," Poster Abstracts, (Poster #13) Nov. 3-6 (1993).

EXAMINER

DATE CONSIDERED

EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with the next communication to applicant.

JAN 14 2002

Sheet 6 Of 8

SUBSTITUTE FORM PTO-1449 (MODIFIED) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary) (37 CFR §1.98(b))	Attorney Docket No.	06132/011002
	Serial No.	09/955,739
	Applicant	Michetti et al.
	Filing Date	September 18, 2001
	Group	Not Yet Assigned
	IDS Filed	December 5, 2001
	Customer No.	21559

OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PLACE OF PUBLICATION)

	Lycke et al., "Strong Adjuvant Properties of Cholera Toxin on Gut Mucosal Immune Responses to Orally Presented Antigens," <i>Gastroenterology</i> 59:301-308 (1986).
	Mazanec et al., "Immunoglobulin A Monoclonal Antibodies Protect Against Sendai Virus," <i>J. Virology</i> 61:2624-2626 (1987).
	McGhee et al., "The Mucosal Immune System: From Fundamental Concepts to Vaccine Development," <i>Vaccine</i> 10:75-88 (1992).
	McSweeney et al., "Intestinal Mucus Gel and Secretory Antibody are Barriers to <i>Campylobacter jejuni</i> Adherence to INT 407 Cells," <i>Infection and Immunity</i> 55:1431-1435 (1987).
	Merrifield, "Solid Phase Peptide Synthesis. I. The Synthesis of Tetrapeptide," 85:2149-2154 (1963).
	Mestecky, "The Common Mucosal Immune System and Current Strategies for Induction of Immune Responses in External Secretions," <i>J. Clin. Immunology</i> 7:265-276 (1987).
	Michetti et al., "Immunization of BALB/c Mice Against <i>Helicobacter felis</i> Infection With <i>Helicobacter Pylori</i> Urease," <i>Gastroenterology</i> 107:1002-1011 (1994).
	Michetti et al., "Oral Immunization with Urease and <i>Escherichia Coli</i> Heat-Labile Enterotoxin is Safe and Immunogenic in <i>Helicobacter pylori</i> -infected Adults," <i>Gastroenterology</i> 116:804-812 (1999).
	Mobley et al., " <i>Helicobacter pylori</i> Urease: Properties and Role in Pathogenesis," <i>Proceedings of an International Workshop at Deerhurst, Huntsville, Ontario, Canada</i> , pp. 39-46, February 21-24 (1991).
	Morris et al., "Ingestion of <i>Campylobacter pyloridis</i> Causes Gastritis and Raised Fasting Gastric pH," <i>Am. J. Gastroenterology</i> 82:192-199 (1987).
	Nagata et al., "Monoclonal Antibodies Against the Native Urease of <i>Helicobacter pylori</i> : Synergistic Inhibition of Urease Activity by Monoclonal Antibody Combinations," <i>Infection and Immunity</i> 60:4826-4831 (1992).
	Nedrud et al., "Combined Oral/Nasal Immunization Protects Mice from Sendai Virus Infection," <i>J. Immunology</i> 139:3484-3492 (1987).
	Oderda et al., "Eighteen Month Follow Up of <i>Helicobacter pylori</i> Positive Children Treated with Amoxycillin and Tinidazole," <i>Gut</i> 33:1328-1330 (1992).
	Offit et al., "Protection Against Rotavirus-Induced Gastroenteritis in a Murine Model by Passively Acquired Gastrointestinal But Not Circulating Antibodies," <i>J. Virology</i> 54:58-64 (1985).

EXAMINER


DATE CONSIDERED

EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with the next communication to applicant.

JAN 17 2002

RECEIVED

TECH CENTER 1600

SUBSTITUTE FORM PTO-1449 (MODIFIED)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		Attorney Docket No. 06132/011002
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)				Serial No. 09/955,739
(37 CFR §1.98(b))		Applicant Michetti et al.		Filing Date September 18, 2001
		Group Not Yet Assigned		IDS Filed December 5, 2001
21559				
OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PLACE OF PUBLICATION)				
	O'Hagan, "Intestinal Translocation of Particulates - Implications for Drug and Antigen Delivery," Advanced Drug Delivery Reviews 5:265-285 (1990).			
	Olivieri et al., "Growth of <i>Helicobacter pylori</i> in Media Containing Cyclodextrins," Journal of Clinical Microbiology 31:160-162 (1993).			
	Orenstein et al., "Immunization," Mandell, Douglas and Bennett's Principles and Practice of Infectious Diseases, 4th Edition (Churchill Livingstone, New York) Part IV, pp. 2770-2790.			
	Pallen et al., "Vaccine Against <i>Helicobacter pylori</i> Urease," The Lancet 336:186-187 (1990).			
	Parsonnet et al., "VI th Int. Workshop of Campylobacter, Helicobacter, and Related Organisms," October 7-10 (1991).			
	Pavlovskis et al., "Adjuvant Effect of <i>Escherichia coli</i> Heat-labile Enterotoxin on Host Immune Response Following Vaccination with Non-Viable Campylobacter Antigens," Microb. Ecol. Health Dis. VI th Int. Workshop on Campylobacter . . . , pg. S10, Oct. 7-10 (1991).			
	Peterson, " <i>Helicobacter pylori</i> and Peptic Ulcer Disease," New England Journal of Medicine 324:1043-1048 (1991).			
	Plotkin et al., "Vaccines," New Technologies for Making Vaccines-W.B. Saunders 570-571 (1988).			
	Rappuoli et al., "Development of a Vaccine Against <i>Helicobacter pylori</i> : A Short Overview," Eur. J. Gastroenterol. Hepatol. 5/Suppl. 2 (1993).			
	Rauws et al., " <i>Campylobacter pyloridis</i> -Associated Chronic Active Antral Gastritis," Gastroenterology 94:33-40 (1998).			
	Schaedler et al., "Gastrointestinal Microflora," Chapter 14, The Mouse in Biomedical Research. 3:341-345 (Academic Press, Inc. 1983).			
	Schmitt et al., "Degradation and Release Properties of Pellets Fabricated from Three Commercial Poly (D,L-lactide-co-glycolide) Biodegradable Polymers," J. Pharmaceutical Sciences 82:326-329 (1993).			
	Sobala et al., "Levels of Nitrite, Nitrate, N-Nitroso Compounds, Ascorbic Acid and Total Bile Acids in Gastric Juice of Patients with and without Precancerous Conditions of the Stomach," Carcinogenesis 12:193-198 (1991).			
	Solnick et al., "Immunization with Recombinant <i>Helicobacter pylori</i> Urease in Specific-Pathogen-Free Rhesus Monkeys (<i>Macaca Mulatta</i>)," Infection and Immunity 68:2560-2565 (2000).			
EXAMINER			DATE CONSIDERED	
EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with the next communication to applicant.				

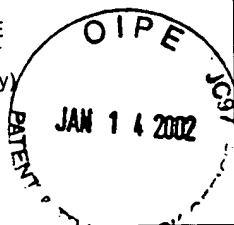
RECEIVED

JAN 17 2002

Sheet 8 Of 8

SUBSTITUTE FORM PTO-1449
(MODIFIED)U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICEINFORMATION DISCLOSURE
STATEMENT BY APPLICANT
(Use several sheets if necessary)

(37 CFR §1.98(b))



Attorney Docket No.	06132/011002
Serial No.	09/955,739
Applicant	Michetti et al.
Filing Date	September 18, 2001
Group	Not Yet Assigned
IDS Filed	December 5, 2001
Customer No.	21559

OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PLACE OF PUBLICATION)

Stacey et al., "Local and Systemic Antibody Responses During *Helicobacter pylori* Infections," "*Helicobacter pylori* and Gastroduodenal Pathology," Pajares et al., (Eds.) (Springer-Verlag, New York) pp. 165-169 (1993).

Sutton et al., "Further Development of the *Helicobacter pylori* Mouse Vaccination Model," Vaccine 18:2677-2685 (2000).

Stuart et al., "Further Studies on Urease Production by *Proteus* and Related Organisms," J. Bacteriol. 49:437-444 (1945).

Thomas et al., "Effect of Oral Immunization with *Helicobacter pylori* Antigens on Colonization by *H. felis* in Mice," Acta Gastro-Enterologica Belgica, VIIth Int. Workshop on Campylobacter . . . Brussels, Sept. 21-25 (1993).

Von Wulffen, "Low Degree of Relatedness Between *Campylobacter pyloridis* and Enteropathogenic *Campylobacter* Species as Revealed by DNA-DNA Blot Hybridization and Immunoblot Studies," FEMS Microbiology Letters 42:129-133 (1987).

Wegmann et al., "Gastroschirillum-hominis-assozierte Gastritis - Eine Zoonose?" Schweiz Med. Wschr. 121:245-254 (1991).

Weltzin et al., "Parenteral Adjuvant Activities of *Escherichia coli* Heat-Labile Toxin and its B Subunit for Immunization of Mice Against Gastric *Helicobacter pylori* Infection," Infection and Immunity 68:2775-2782 (2000).

Winner III et al., "New Model for Analysis of Mucosal Immunity: Intestinal Secretion of Specific Monoclonal Immunoglobulin A from Hybridoma Tumors Protects Against *Vibrio cholerae* Infection," Infection and Immunity 59:977-982 (1991).

Wotherspoon et al., "Regression of Primary Low-Grade B-Cell Gastric Lymphoma of Mucosa-Associated Lymphoid Tissue Type After Eradication of *Helicobacter pylori*," The Lancet 342:575-577 (1993).

Wyatt et al., "Local Immune Response to Gastric *Campylobacter* in Non-Ulcer Dyspepsia," J. Clin. Pathol. 39:863-870 (1986).

Abstracts Submitted for "*Helicobacter Pylori*: Beginning the Second Decade" and the VIIth Workshop of the European *Helicobacter Pylori* Study Group, Houston, Texas, September 30-October 1 (1994).

EXAMINER

DATE CONSIDERED

EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with the next communication to applicant.